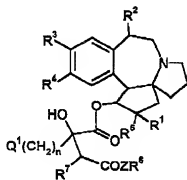


## Claims

1. A new method of therapy using the subcutaneous mode of administration of formulations based upon harringtonines including their salts and tautomeric forms having the formula



15 where :

- R<sup>1</sup> is H, OH, OMe, O-(C<sub>1</sub>-C<sub>30</sub>)-alkyl, O-aryl-(C<sub>1</sub>-C<sub>30</sub>)-alkyl, O-(C<sub>2</sub>-C<sub>30</sub>)-alkenyl, O-(C<sub>3</sub>-C<sub>30</sub>)-cycloalkyl or null and

R<sup>2</sup> is H or OH, or R<sup>1</sup>, R<sup>2</sup> form together -O-,

R<sup>3</sup> = R<sup>4</sup> = OMe or R<sup>3</sup> and R<sup>4</sup> form together -OCH<sub>2</sub>O-,

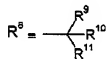
•

n is 0 to 8,

•

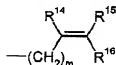
- 25 • R<sup>5</sup> is H, OH, OMe, O-(C<sub>1</sub>-C<sub>30</sub>)-alkyl, O-aryl-(C<sub>1</sub>-C<sub>30</sub>)-alkyl, O-(C<sub>2</sub>-C<sub>30</sub>)-alkenyl, O-(C<sub>3</sub>-C<sub>30</sub>)-cycloalkyl or O-aryl,

Z = O, S, or NH, and



or Z- R<sup>8</sup> is NR<sup>12</sup>R<sup>13</sup>, R<sup>12</sup> and R<sup>13</sup> representing respectively R<sup>9</sup> and R<sup>10</sup>,

R<sup>9</sup>, R<sup>10</sup>, R<sup>11</sup> are independently H, C<sub>1</sub>-C<sub>30</sub> alkyl, C<sub>3</sub>-C<sub>30</sub> cycloalkyl, aryl, aryl-(C<sub>1</sub>-C<sub>30</sub>)-alkyl, C<sub>2</sub>-C<sub>30</sub> alkenyl, C<sub>2</sub>-C<sub>30</sub> alkynyl, C<sub>1</sub>-C<sub>30</sub> trihalogenoalkyl, C<sub>1</sub>-C<sub>30</sub> alkylamino-(C<sub>1</sub>-C<sub>30</sub>)alkyl, C<sub>1</sub>-C<sub>30</sub> dialkylamino-(C<sub>1</sub>-C<sub>30</sub>)-alkyl, or amino-(C<sub>1</sub>-C<sub>30</sub>)-alkyl, or

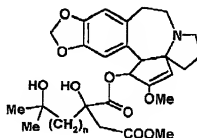


where R<sup>14</sup>, R<sup>15</sup>, R<sup>16</sup> are independently H, halogen, C<sub>1</sub>-C<sub>30</sub> alkyl, C<sub>3</sub>-C<sub>30</sub> cycloalkyl, aryl, aryl-(C<sub>1</sub>-C<sub>30</sub>)-alkyl, C<sub>2</sub>-C<sub>30</sub> alkenyl or C<sub>2</sub>-C<sub>30</sub> alkynyl, C<sub>1</sub>-C<sub>30</sub> trihalogenoalkyl, m is 0 to 4,

each of these groups including or not heteroatom(s).

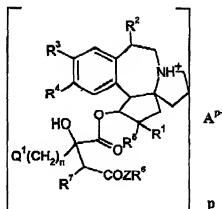
or their combination with another antitumor agent or a mixture of antitumor agents useful for the treatment of a disease in humans or animals, particularly cancers, leukemias, lymphomas, parasite diseases or chemotherapeutic resistance to other agents, in using a formulation specifically adapted for subcutaneous administration.

2. The method of claim 1 to 2 where the harringtonine is homoharringtonine or harringtonine having the following formula



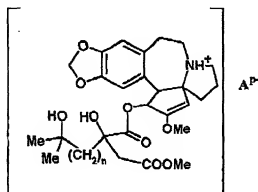
where n = 1 or 2

3. The method of claim 1 or 2 in which harringtonines are used under their salt forms having the following formula,



5

or, in particular the formula



where A<sup>-</sup> is a mineral anion such as chlorid, sulfate, nitrate, perchlorate or an organic ion such as tartarate, malate, lactate, or a citrate and p is 1 or 2.

10

4. The method of claims 1 to 3 in which the acid which forms a salt of harringtonines is hydrochlorid acid or tartaric acid.

5. The method of therapy of claims 1 to 4 in which the harringtonines are solution or hydrophilic freeze-dried powder ready-to-reconstitute of buffered salt of homoharringtonine or harringtonine of which the level of chromatographic purity suitable for medical use is higher than 99.7 %
- 5 6. The method of therapy of claims 3 to 5 in which the pH of the formulation or constituted solution for injection is included between 5.5 and 8.
7. The method of therapy of claims 1 to 6 in which harringtonines are combined with  
10 another agent in the same injection.
8. The method of therapy of claim 7 in which the other agent is a nucleoside, preferably cytosine arabinoside
- 15 9. The method of therapy of claims 1 to 8 in which the subcutaneous mode of administration is performed by bolus injection at regular intervals such as one to four injection a day during 1 to n days for a cycle of n days, n being preferably 28.
- 20 10. The method of therapy of claims 1 to 8 in which the subcutaneous mode of administration is performed by continuous subcutaneous infusion.